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AUTHOR Petersen, Anne C.; And Others
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ABSTRACT

Statistics suggest that the incidence of depression and suicide increase over the course of adolescence. Other research suggests that many indicators of well-being increase over the course of adolescence as well. This study investigated affective development during adolescence and examined the relationship of gender, normative developmental changes in early adolescence, and parental relationships to affective development patterns. Subjects were 254 sixth graders who participated in a longitudinal study through eighth grade. A subsample of students were involved in a follow-up study in their senior year of high school. Depressive affect was measured in several ways throughout the years of the research. The results revealed that, in early adolescence, there were usually no significant sex differences in self-image or depression. By grade 12 however, boys reported more positive feelings than did girls. High associations were found among several measures of depression and well-being in the last year of high school. Girls were much more likely than boys to report depressed mood by grade 12, suggesting that gender becomes a more potent organizer of depressed mood over adolescence. Regardless of gender, subjects who were distressed throughout early adolescence were much more likely to report poorer self-images by grade 12. This finding suggests that poor mood in early adolescence is not transient but rather quite predictive of later depressive mood. (NB)

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Who Expresses Depressive Affect in Adolescence?

Anne C. Petersen

Aaron Ebata

Pamela Sarigiani

The Pennsylvania State University

CG 020669

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Recent statistics from several sources suggest that the incidence of depression and suicide increase over the course of adolescence (Petersen & Craighead, 1986), and that these problems have increased over recent historical time (Rutter, 1986). This information has received a great deal of attention in the popular media and created some alarm among the public. Yet, a great deal of research also shows that many indicators of well-being increase over the course of adolescence. How can these two trends coexist during adolescence--one suggesting decline and the other suggesting increase in well-being? In this presentation, we provide evidence that the two trends can coexist because neither represents all adolescents; rather, each trend represents a subgroup of adolescents, one manifesting increasing development and well-being over adolescence and the other manifesting increasing distress over the same period.

Developmental Transition in Early Adolescence

We have hypothesized that the transition from childhood into adolescence, the period often called early adolescence, represents a developmental transition in life (Petersen, 1987). During early adolescence, there is change in every aspect of individual development and in every important social context. The extent and timing of changes

at this period, including both normative and non-normative change, has been found to influence the subsequent developmental pathway or trajectory (Petersen & Ebata, 1986, in press) (see Figure 1). In particular, we found that experiencing synchronous pubertal change and school transition was related to more depressive affect by eighth grade. Although family changes, such as parental death or divorce, did not have an effect alone, they did significantly augment the effects of other synchronous changes.

Insert Figure 1 about here

More important to the present examination is our finding of divergent developmental pathways in early adolescence (Ebata & Petersen, 1986). We hypothesize that the individual's response to the challenges of the early adolescent transition represents an enduring coping pattern. Whether the apparent developmental paths for affect and depression seen in early adolescence were transitory or enduring was the focus of the present analyses. In addition, we examine the relationship of gender, normative developmental changes in early adolescence, and parental relationships to the patterns of affective development.

Methods

Design and Sample

The study on the development of adolescent mental health (Petersen, 1984) on which the present analyses are based utilized a cohort sequential longitudinal design (Baltes, 1968; Schaie, 1965). A sample of 335 sixth graders were drawn randomly from the entire populations of two

suburban school districts. The students and their families were predominantly white and middle to upper-middle class. More information on the demographic characteristics of the families and schools can be obtained in Richardson, Galambos, Schulenberg, and Petersen (1984) and Schulenberg, Asp, and Petersen (1984), respectively. Two successive sixth grade cohorts were sampled.

The assessment design involved twice annual individual interviews and twice annual group assessments from sixth through eighth grades. A follow-up study was conducted in the last year of high school and involved interviews and the completion of a battery of questionnaires. For longitudinal analyses, we identified what we called the longitudinal sample of 254 young adolescents who were present for at least 4 of 6 group assessments and 4 of 6 individual interviews. Most subjects were missing only one of these. There are no differences between the longitudinal sample and the full sample on any measure. Of the 335 subjects in the full sample, 169 participated in the follow-up study (145 of them in the longitudinal sample). Again, there are no differences in early adolescent data between those in and not in the follow-up data.

Measures

Depressive affect was assessed in several ways. Annually in early adolescence and again in the follow-up, depressive affect was assessed as a component of emotional tone, one of the scales on the Self-Image Questionnaire for Young Adolescents (SIQYA; Petersen et al., 1984). This scale involves statements covering the entire range of affect, from positive to negative. Responses are made on a six-level Likert scale. The questions on the Emotional Tone scale are listed in Table 1.

Insert Table 1 about here

Adolescents were asked about significant depressive episodes using a series of standard clinical epidemiological questions from the TOYS (The Older Adolescent and Young Adult Schedule; Gittelman, Mannuzza, Shenker, & Bonagura, 1985). This set of questions was asked in eighth grade and again at the follow-up. Data on these questions will not be presented here because the dichotomous nature of the scores required separate analyses. All of the results with the TOYS are consistent with those reported here.

At the high-school follow-up, adolescents also completed the Kandel Depression Scale (Kandel & Davies, 1982), the Index of Well-Being (Campbell, Converse, & Rodgers, 1976), the Life Satisfaction Index (Diener, Emmans, Larsen, & Griffin, in press), the Rosenberg Self-Esteem Scale (Rosenberg, 1965), and the Achenbach Child Behavior Checklist, Youth Report Form (Achenbach & Edelbrock, 1981). These latter data are not yet scored.

Results

In early adolescence, there were usually no significant sex difference in self-image or depression; on the few occasions where differences appeared, boys reported more positive feelings. By 12th grade, these trends had become much more pronounced, with boys reporting more positive feelings in all cases (see Figure 2). According to usual criteria, these are considered to be moderate to large effects.

Insert Figure 2 about here

High associations were found among several measures of depression or well-being in the last year of high school (age 17) (see Table 2). The correlations were generally similar for boys and girls. They also are relatively high, considering that each represents a somewhat distinct construct and measure, with different measurement properties. In particular, the high correlations attest to the construct validity of the Emotional Tone scale, the primary measure obtained longitudinally.

Insert Table 2 about here

The correlations between 12th grade emotional tone and emotional tone in early adolescence are shown in Table 3. Interestingly, the correlations are quite similar for boys at all three adolescent ages (.45 - .46) but are substantially lower and more variable for girls (.10 - .33). These correlations are significantly different for boys and girls only at 6th grade.

Insert Table 3 about here

Higher correlations over adolescence among boys relative to girls are also seen for the other measures of depression or well-being at 12th grade (Table 4). Almost all of these correlations are higher for boys than for girls, most significantly so. Two exceptions are the

correlations with the Kandel Depression Scale, which are higher (though not significantly) for girls than boys at 6th and 7th grades.

Insert Table 4 about here

Early Adolescent Chronicity and 12th Grade Depression

To examine the effects of developmental pattern of depressed mood in early adolescence, a variable identifying stability of this state was created. Chronicity of depressed mood in early adolescence was defined (Ebata, 1987) as the number of times over early adolescence that a youngster was more than half a standard deviation below the mean of the distribution on Emotional Tone, or roughly in the bottom third of the distribution. An individual in the bottom in all three grades was defined "chronic," twice was defined as "recurrent," once as "transient," and no times as "nondistressed" (see Table 5). There were twice as many girls as boys in the chronic group, and fewer girls in the nondistressed group (see Table 6). Ebata (1987) found that girls in the recurrent group were most likely to be there in 7th and 8th grades whereas, for boys, the two occasions for low emotional tone were distributed fairly randomly across the three possibilities (i.e., 6th and 7th, 7th and 8th, 6th and 8th grades).

Insert Tables 5 and 6 about here

These categories of pattern of poor emotional tone in early adolescence significantly predicted 12th grade self-image in a multivariate analysis of variance ($F = 1.89$, $p < .05$) (see Table 7).

There were also significant sex differences, such that boys reported higher self-image than girls. There was no multivariate sex by chronicity interaction. The percent variance accounted for by the two main effects in single self-image scales ranged from 9% to 26%. Significant univariate effects of chronicity were seen with all scales except Vocational/Educational Goals (and there $F = 2.40$, $p < .10$). The chronic group had the lowest self-image in 12th grade with all scales. In every case, this group was significantly lower than the nondistressed group. With Impulse Control, Emotional Tone, and Body Image, the order of chronicity groups was Nondistressed higher than Transient higher than Recurrent higher than Chronic; in other words, each additional time of reporting low Emotional Tone predicted worse outcome at 12th grade. For the other scales, the Chronic and Recurrent groups were more similar. Most often, the transient group was not different from the nondistressed group. A MANOVA on the other depression and well-being measures produced similar results.

Insert Table 7 about here

Other Early Risk Factors

Extent of chronicity was not significantly related to gender, early adolescent achievement patterns, timing of pubertal maturation, the synchrony of school transition and becoming pubertal, or non-normative family changes in early adolescence. Chronicity was related to the nature of school transition in early adolescence ($L^2 = 19.82$, $p = .003$), with 36% of the chronics having experienced an early transition to secondary school (before 6th grade). Among the findings in Ebata's

dissertation on this sample was more reports of depression on the TOYS and lower school achievement for boys but not girls in the Chronic and Recurrent groups. He also found poorer family relationships in these groups.

Relationships with Parents

In Sarigiani's masters thesis on these data, just presented in a poster session, she found that perceived emotional distance from parents, especially fathers, was related to affective difficulties for girls, in early adolescence and at 12th grade. For boys, few links were found between closeness in relationships with parents and adjustment in 8th grade, but by 12th grade, perceived distance from mothers was related to affective difficulties. The cross-sex effects she found are intriguing and provocative, stimulating further analyses. Using other measures on our sample, Mikesell and colleagues (Mikesell, White, & Petersen, 1987) presented results suggesting that a negative-affective family environment in early adolescence has adverse effects on the adolescent's emotional tone. No cross-sex effects were found with the measures used, which involved reports by each family member of feelings toward the other. It is possible that adolescents may attribute more potent influence to the other sex parent.

Discussion

These results suggest that depressed mood in early adolescence is important for subsequent functioning, with stronger effects for boys than for girls in most cases. Girls are much more likely than boys to report depressed mood by 12th grade. Therefore, gender becomes a more potent organizer of depressed mood over adolescence. Girls appear to become depressed during adolescence whereas boys are more stable on this

construct. Previous analyses (Ebata, 1987) suggest that boys reporting depressed feelings in early adolescence were more likely than girls to have already experienced some difficulties prior to this period. In contrast, girls were more likely to become depressed during adolescence.

Regardless of gender, those who were distressed throughout early adolescence were much more likely to report poorer self-image by 12th grade. These results suggest that poor mood in early adolescence is not transient but rather quite predictive of later depressive mood.

The influences on depressed mood require further examination. Parent relationships appear to be likely candidates for further inquiry, especially with respect to different effects on boys and girls.

In closing, let me return to the question posed in the title of this presentation: Who expresses depressive affect in adolescence? The results presented are the first descriptive analyses of our longitudinal sample from 6th grade through 12th grade, roughly the span from 11 to 17 years of age. We have tested the hypothesis that the many normative developmental changes of early adolescence, together with non-normative changes, represent challenges to individuals that result in depressive affect in some, at both early adolescence (Petersen & Ebata, 1986) and by 12th grade (Petersen, Ebata, & Graber, 1987). Indeed, more variance was accounted for in 12th than 8th grade depressive affect. We believe that these results support the hypothesis that young people get on developmental tracks during early adolescence that reflect their ability to cope with the challenges of the period. Our results reveal that girls, more than boys, are likely to develop depressive mood and negative self-feelings over the course of adolescence. In previous analyses (e.g., Petersen & Ebata, 1986), we found that girls were likely to

experience more change and challenge during early adolescence (e.g., more divorce, more likely to change schools during the peak of pubertal change). In addition, girls may respond differently to the challenges they experience. This combination of factors--the extent of challenge together with the coping response--will be important to pursue in subsequent analyses.

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Table 1

Self-Image Scales (SIQYA)

Social Contexts:

- Peer Relations
- Family Relations
- Vocational/Educational Goals

Individual Domains:

- Impulse Control
- Emotional Tone
- Body Image
- Mastery & Coping
- (Less) Psychopathology
- Superior Adjustment

Table 2

Association Among Measures of Depression

or Well-Being at 12th Grade

	ET	IWB	KDS	LSI	RSE
Emotional Tone (ET)		.70	-.69	.64	.68
Index of Well-Being (IWB)	.75		-.45	.62	.59
Kandel Depression Scale (KDS)	-.54	-.50		-.45	-.49
Life Satisfaction Index (LSI)	.61	.76	-.52		.63
Rosenberg Self-Esteem (RSE)	.74	.62	-.49	.65	

Note: Correlations for boys (n=53) are below the diagonal and correlations for girls (n=70) are above.

Table 3

Correlations of Emotional Tone in 12th Grade

to Emotional Tone at Three Early Adolescent Grades

	Grade in School		
	6th	7th	8th
Boys (n=45)	.45	.46	.46
Girls (n=64)	.10	.33	.30

Table 4

Correlations Between Early Adolescent Emotional Tone (ET) and 12th Grade Depression or Well-Being

	Boys (n=51)			Girls (n=67)		
	ET6	ET7	ET8	ET6	ET7	ET8
Well-Being	.44	.31	.34	.04	.20	.20
Kandel Depression	-.20	-.20	-.40	-.33	-.35	-.28
Life Satisfaction	.32	.16	.28	-.02	.09	.19
Rosenberg Self-Esteem	.40	.61	.66	.02	.28	.25

Table 5

Definitions of Chronicity Groups

# Times Low on Emotional Tone		Label
3	=	Chronic
2	=	Recurrent
1	=	Transient
0	=	Nondistressed

Table 6

Chronicity of Distress

During Early Adolescence

	Boys	Girls
Chronic	7.1%	14.2%
Recurrent	13.3%	13.5%
Transient	19.5%	19.2%
Nondistressed	60.2%	53.2%

Table 7

12th Grade Self-Image by Sex and Chronicity of Distress in Early Adolescence

SIQYA Scale	Effect			Model	
	Sex	Chronicity	SXC	F	R^2
Impulse Control		*		*	.17
Emotional Tone	*	*		*	.21
Body Image	*	*		*	.26
Mastery & Coping		*		*	.15
(Less) Psychopathology	*	*		*	.26
Superior Adjustment		*		*	.14
Peer Relationships		*		*	.19
Family Relationships		*		*	.18
Vocational/Educational Goals					.09
Multivariate	*	*			

*$p < .05$; for all significant sex effects, boys have higher self-image than girls.